

August Meeting: Air Quality

Threshold Update Initiative Stakeholders Working Group

August 10, 2022

AGENDA

I. CALL TO ORDER AND DETERMINATION OF QUORUM	11:00-11:05
II. WELCOME AND AGENDA REVIEW	11:05-11:10
III. DISPOSITION OF JULY MEETING SUMMARY	11:10-11:25
IV. DISCUSSION OF RECOMMENDED MODIFICATIONS TO THE AIR QUALITY THRESHOLD STANDARDS	11:25-1:00
V. SUMMARY OF NEXT STEPS	1:00-1:05
VI. ADJOURN	1:05

DISPOSITION OF JULY MEETING SUMMARY

THRESHOLD UPDATE INITIATIVE STAKEHOLDER'S WORKING GROUP MEETING SUMMARY

Wednesday, July 13, 2022

11:00PM - 2:00PM

TRPA offices, 128 Market Street, Stateline, Nevada & Via Zoom

Link: <https://www.trpa.gov/july-13-2022-threshold-update-initiative-stakeholders-working-group/>



Draft Meeting Summary

AGENDA ITEM

I. WELCOME, AGENDA REVIEW

Members present: Jennifer Carr, Susan Chandler, Jason Drew, Jim Lawrence, Jesse Patterson, Steve Teshara, Bill Yeates

Members absent: Monica Arienzo

Staff present: John Hester, Ken Kasman, John Marshall, Kat McIntyre, Julie Regan, Dan Segan

Public present: Laura Patten

II. OVERVIEW OF THRESHOLD STANDARD OUTLINE

Air quality



THRESHOLD CATEGORY > REPORTING CATEGORY > INDICATOR				2011	2015	2019
Air Quality						
Carbon Monoxide (CO)						
Highest 8-Hour Average Concentration of Carbon Monoxide				↑	↗	↗
Average Daily Winter Traffic Volume, Presidents' Weekend				↗	↗	↔
				↗	↗	◊
Water Quality Standards				⏮	⏮	⏮
				↔	↗	↗
				↗	↗	↗
				↔	↔	↗
				↔	↔	↔
Respirable and Fine Particulate Matter						
Highest 24-Hour PM10 Concentration				↗	↔	↘
Annual Average PM10 Concentration				◊	↗	↗
Highest 24-Hour PM2.5 Concentration				↘	↔	↘
Annual Average PM2.5 Concentration				↔	↔	↗
Sub-Regional Visibility						
Sub-Regional Visibility 50th Percentile ("Average Visibility Days")				◊	◊	◊
Sub-Regional Visibility 90th Percentile ("Worst Visibility Days")				◊	◊	◊

1991 Threshold Evaluation

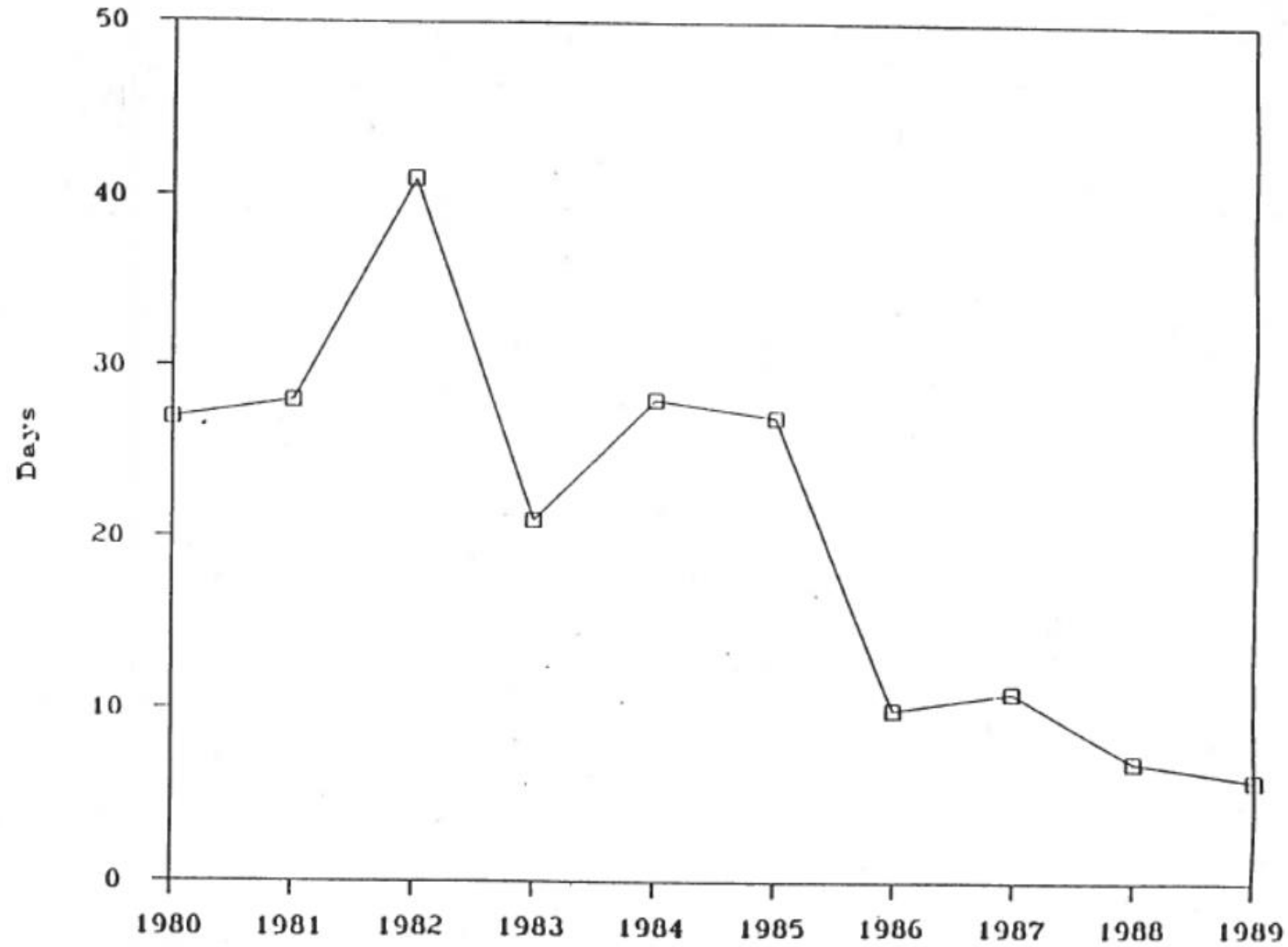
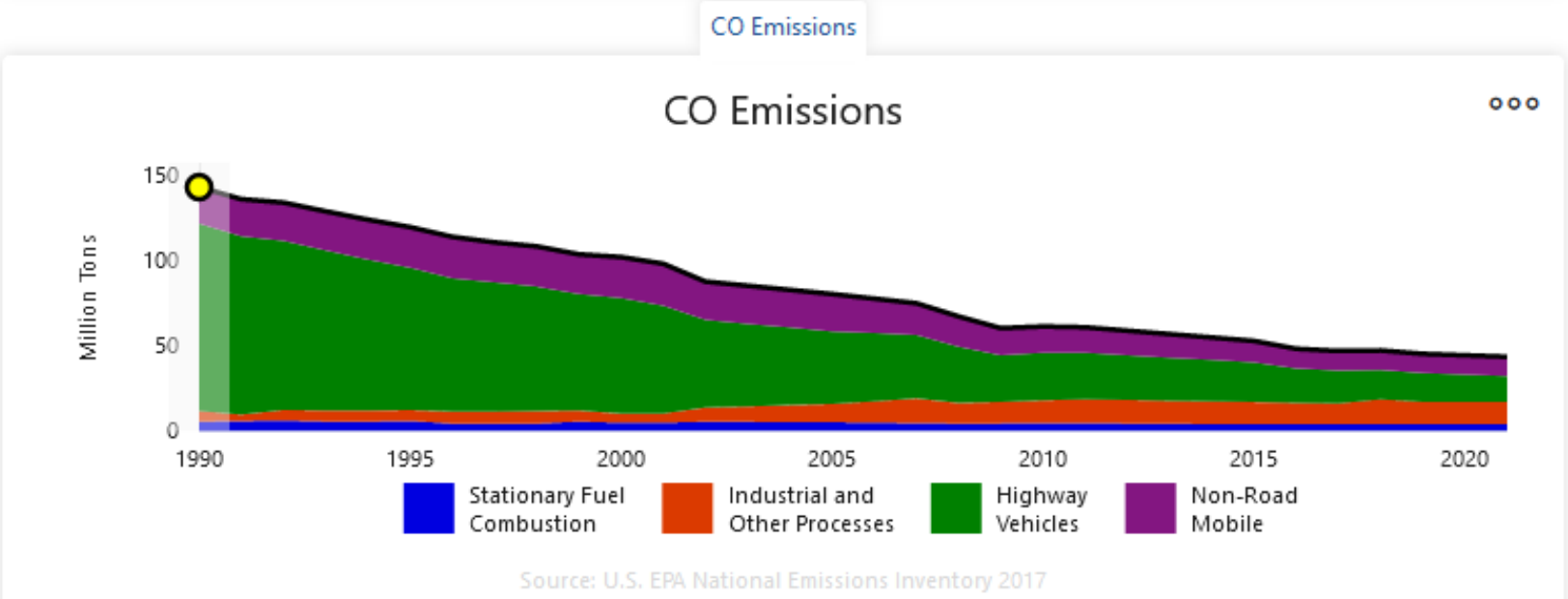
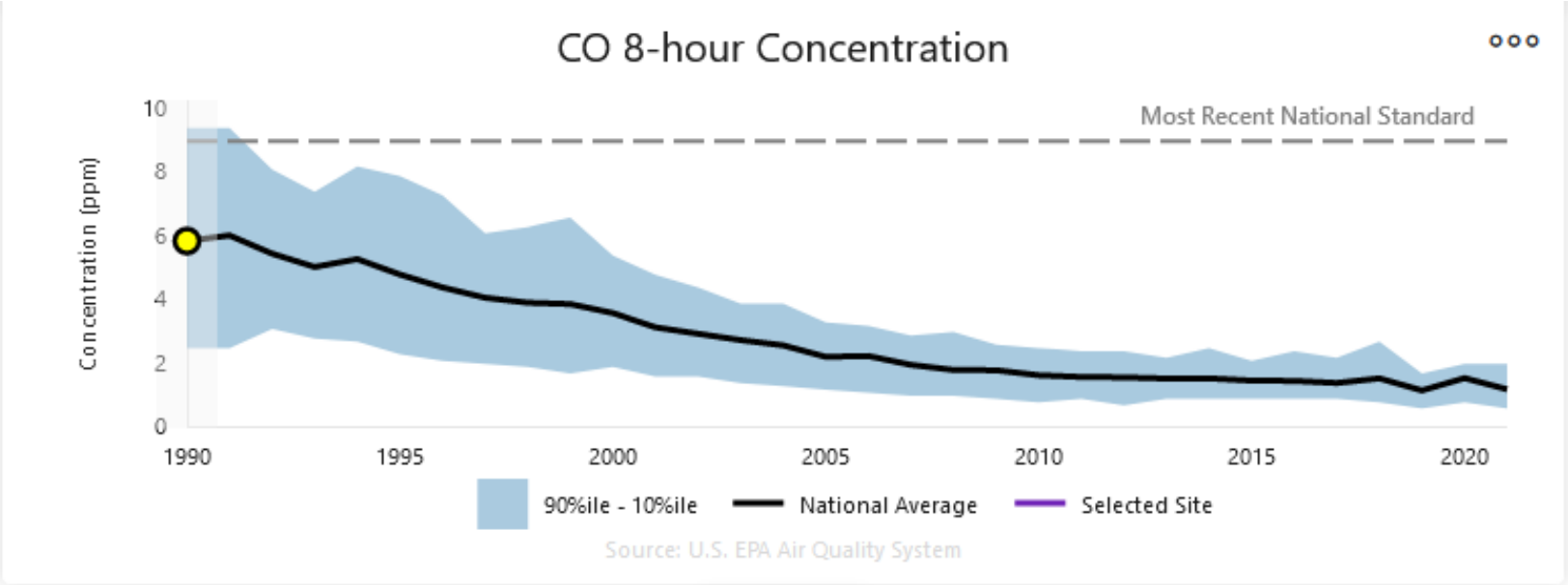
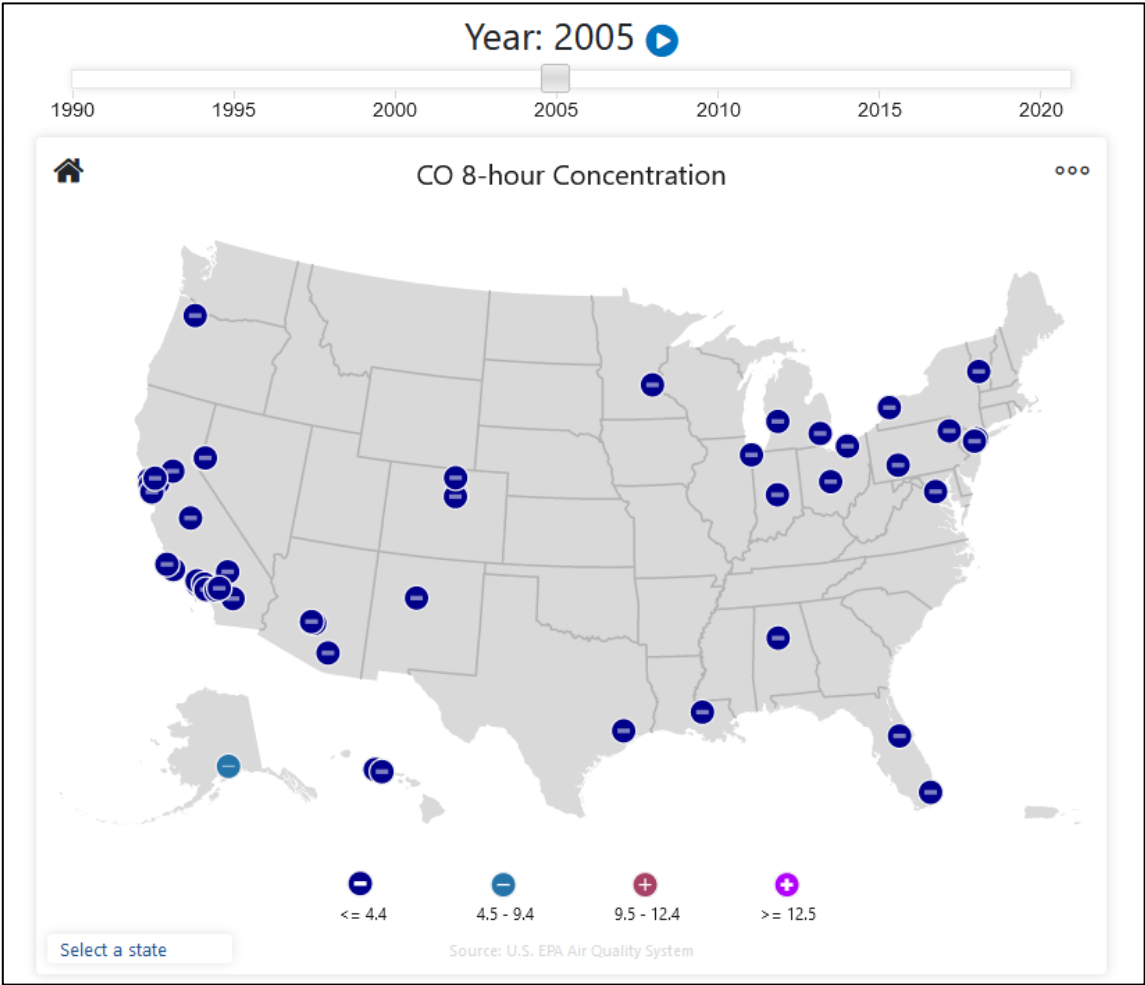
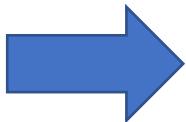
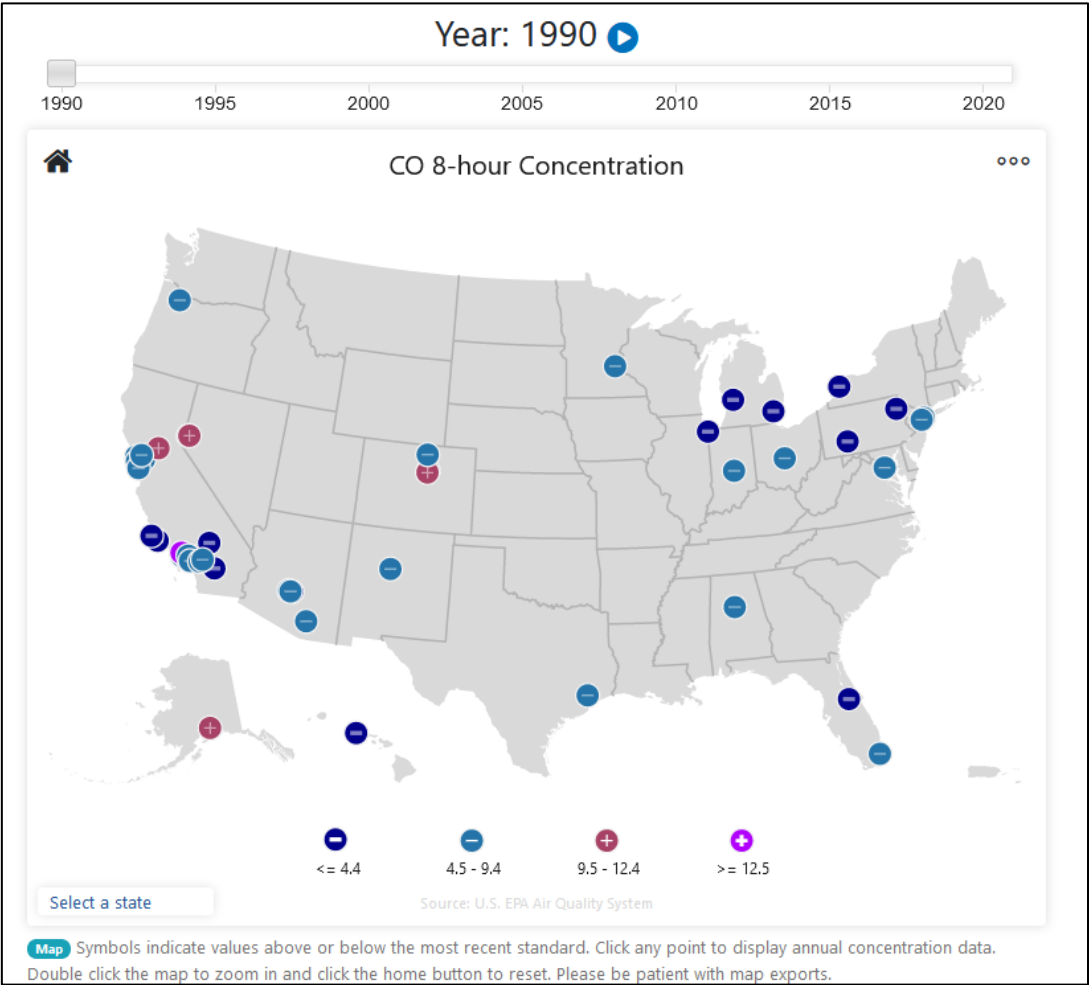


Figure 13. Carbon monoxide, 8-hour average, days exceeding NAAQS (9.3 ppm) at Stateline, California

National Trends



National Trends



Bi – State Compact

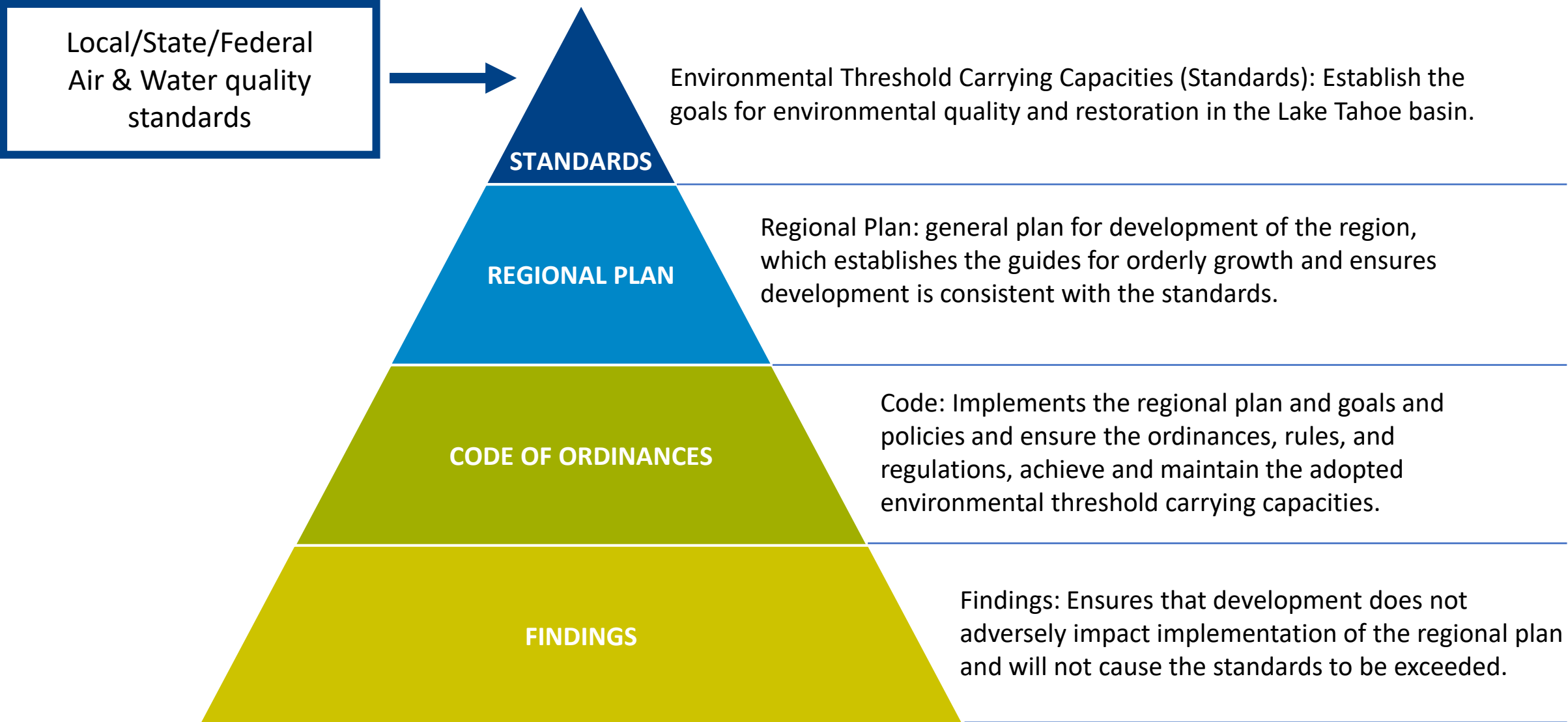
ARTICLE V. – PLANNING

*(c) “Within 1 year after the adoption of the environmental threshold carrying capacities for the region, the agency shall amend the **regional plan so that, at a minimum, the plan and all its elements, as implemented through agency ordinances, rules and regulations, achieves and maintains the adopted environmental threshold carrying capacities.**”*

*(d) **The regional plan shall provide for attaining and maintaining Federal, State, or local air and water quality standards, whichever are strictest, in the respective portions of the region for which the standards are applicable.***

The agency may, however, adopt air or water quality standards or control measures more stringent than the applicable State implementation plan or the applicable Federal, State, or local standards for the region, if it finds that such additional standards or control measures are necessary to achieve the purposes of this compact.

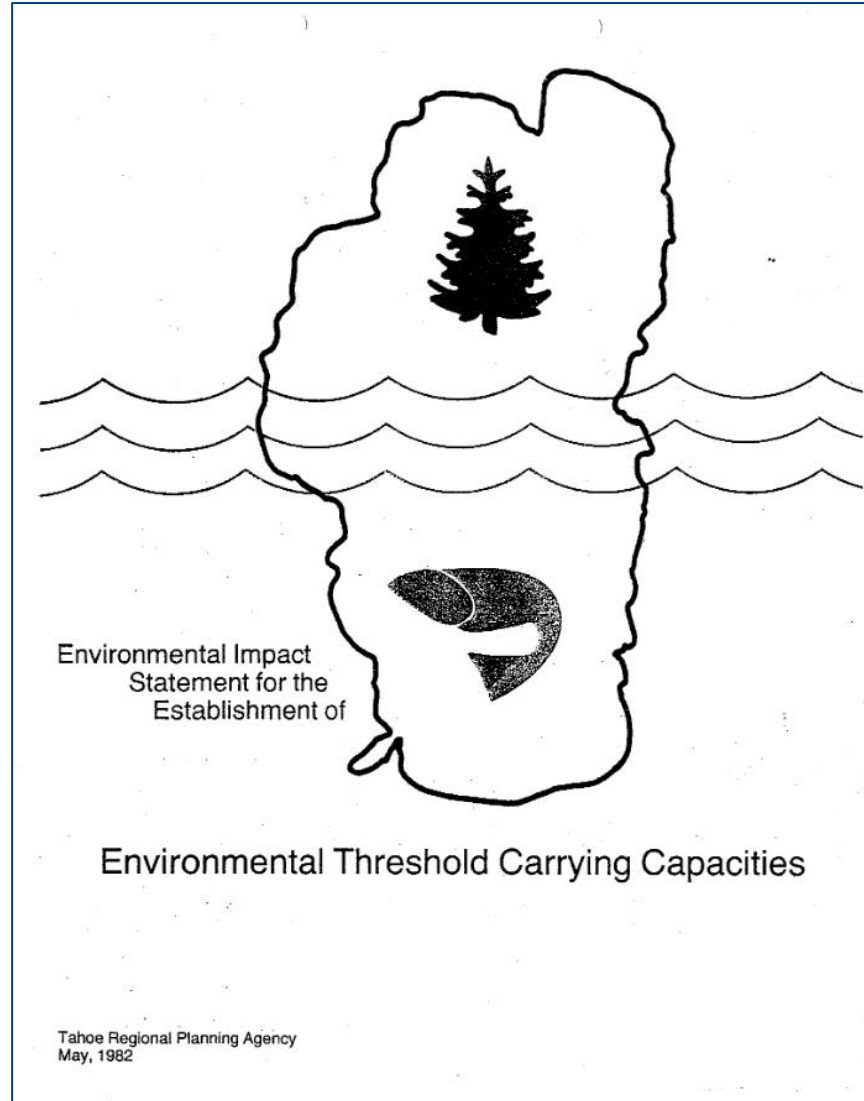
Threshold standards



Standard Definition

- 1) Adopt Tahoe specific standards and some state and federal standards
- 2) Adopt Tahoe specific standards and all state and federal standards
- 3) Adopt only Tahoe specific standards
- 4) Adopt Tahoe specific standards and state and federal standards where unique to Tahoe

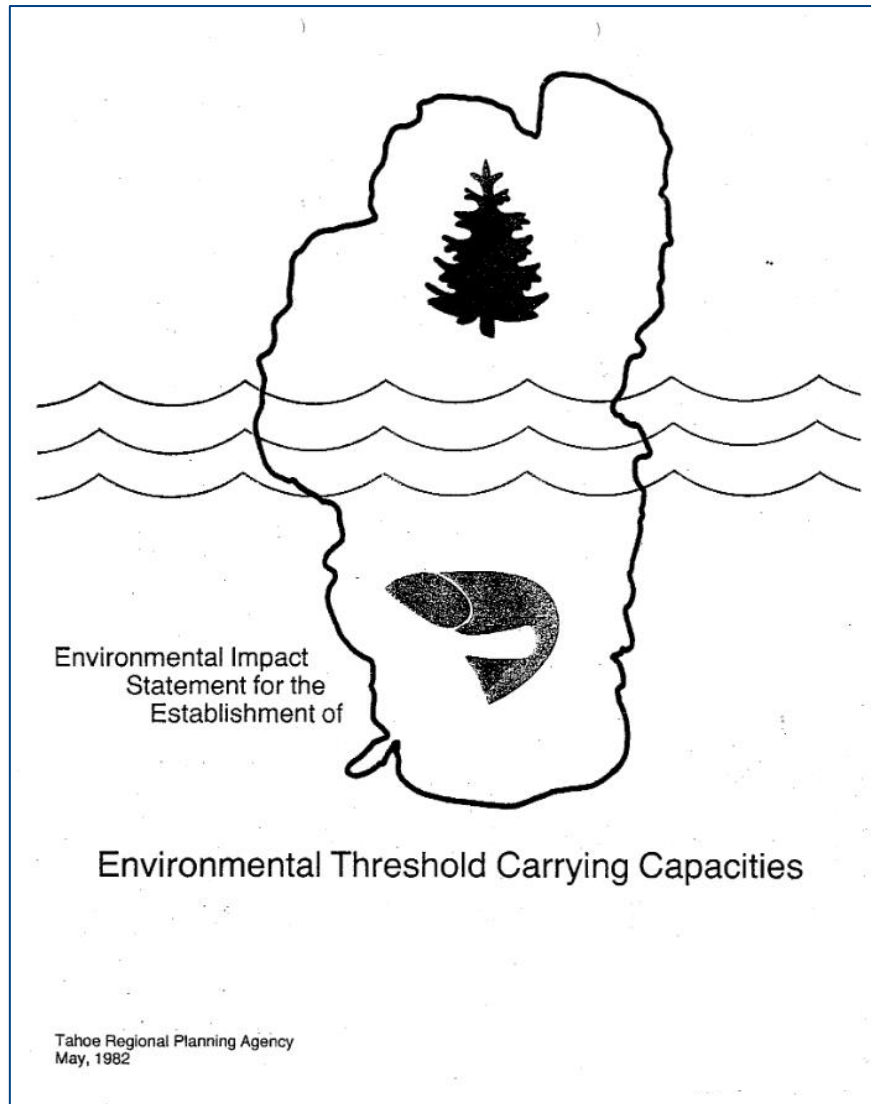
1) Tahoe specific & some others



Air Quality: In addition to the standards listed in Chapter II for the selected subcomponents, other air quality standards apply to the Lake Tahoe Basin.

Pollutant	Averaging Time	California Standard	Nevada Standard	Federal Standard
Ozone	1 Hour	0.10 ppm ⁽¹⁾	0.10 ppm	0.12 ppm
Carbon Monoxide	12 Hour	10. ppm	----	----
	8 Hour	6. ppm	6. ppm	9. ppm
	1 Hour	40. ppm	6. ppm	15. ppm
Nitrogen Dioxide	Annual Arithmetic Mean	----	0.05 ppm	0.05 ppm
	1 Hour	0.25 ppm	----	----
Sulfur Dioxide	Annual Geometric Mean	----	0.03 ppm	0.03 ppm
	24 Hour	0.05 ppm	0.14 ppm	0.14 ppm
	3 Hour	----	0.5 ppm	0.5 ppm
	1 Hour	0.5 ppm	----	----
Particulate Matter	Annual Geometric Mean	60ug/m ³⁽²⁾	75ug/m ³	75/60ug/m ³
	24 Hour	100ug/m ³	150ug/m ³	260/150ug/m ³
Sulfates	24 Hour	25ug/m ³	----	----
Lead	30 Day Average	1.5ug/m ³	----	----
	3 Month Arithmetic Mean	----	1.5ug/m ³	1.5ug/m ³
Hydrogen Sulfide	1 Hour	0.03 ppm	----	----
Hydrocarbons	3 Hour 6-9 a.m.	----	0.24 ppm	0.24 ppm
Ethylene	8 Hour	0.1 ppm	----	----
	1 Hour	0.5 ppm	----	----
Visibility	Daily	30 miles at 70% humidity	30 miles at 70% humidity	----
Vinyl Chloride	24 Hour	0.010ppm	----	----

1) Tahoe specific & some others



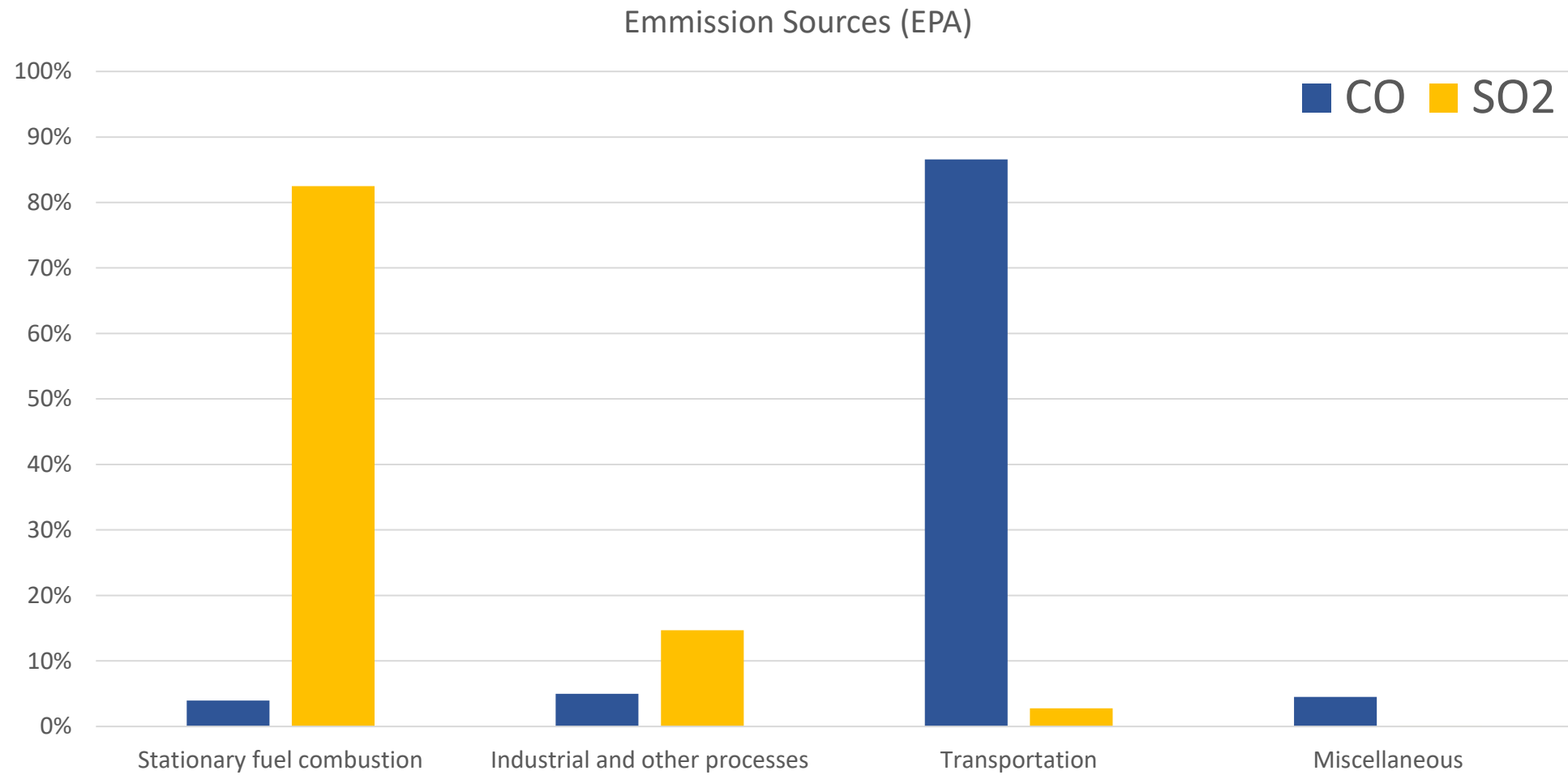
AIR QUALITY

Carbon Monoxide: The recommended threshold for carbon monoxide is 6 parts per million (ppm) averaged over an 8 hour period. This is the same as current California and Nevada standards. Alternatives more restrictive are not necessary for they would have no additional health related benefits. Alternatives higher than 6 ppm would not meet the existing standards. Adoption of this threshold is based on a commitment from California and Nevada to review the current standard by December 1, 1982.

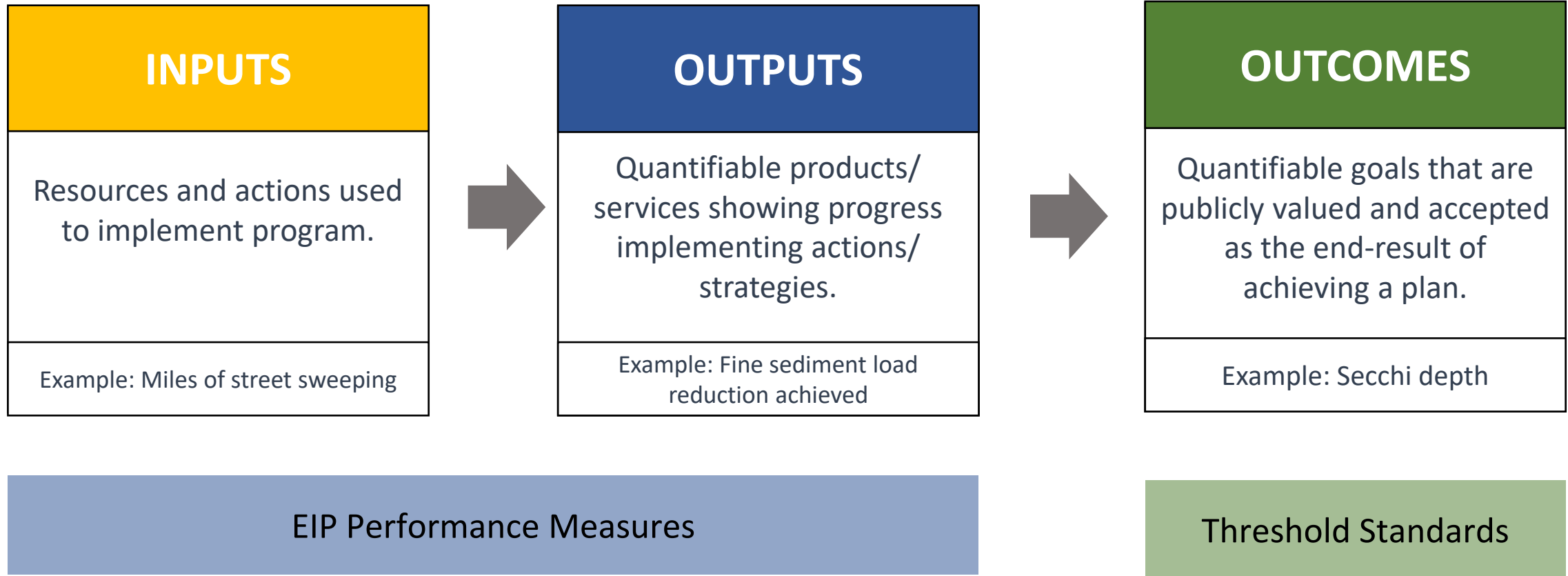
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Carbon Monoxide	12 Hour	10. ppm	----	----
	8 Hour	6. ppm	6. ppm	9. ppm
	1 Hour	40. ppm	6. ppm	15. ppm

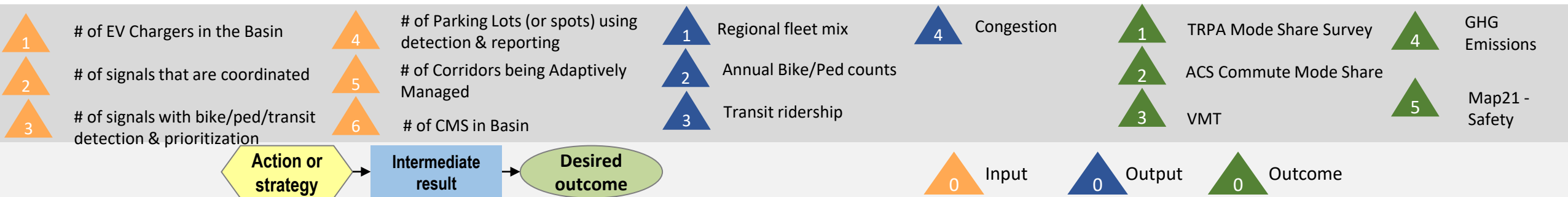
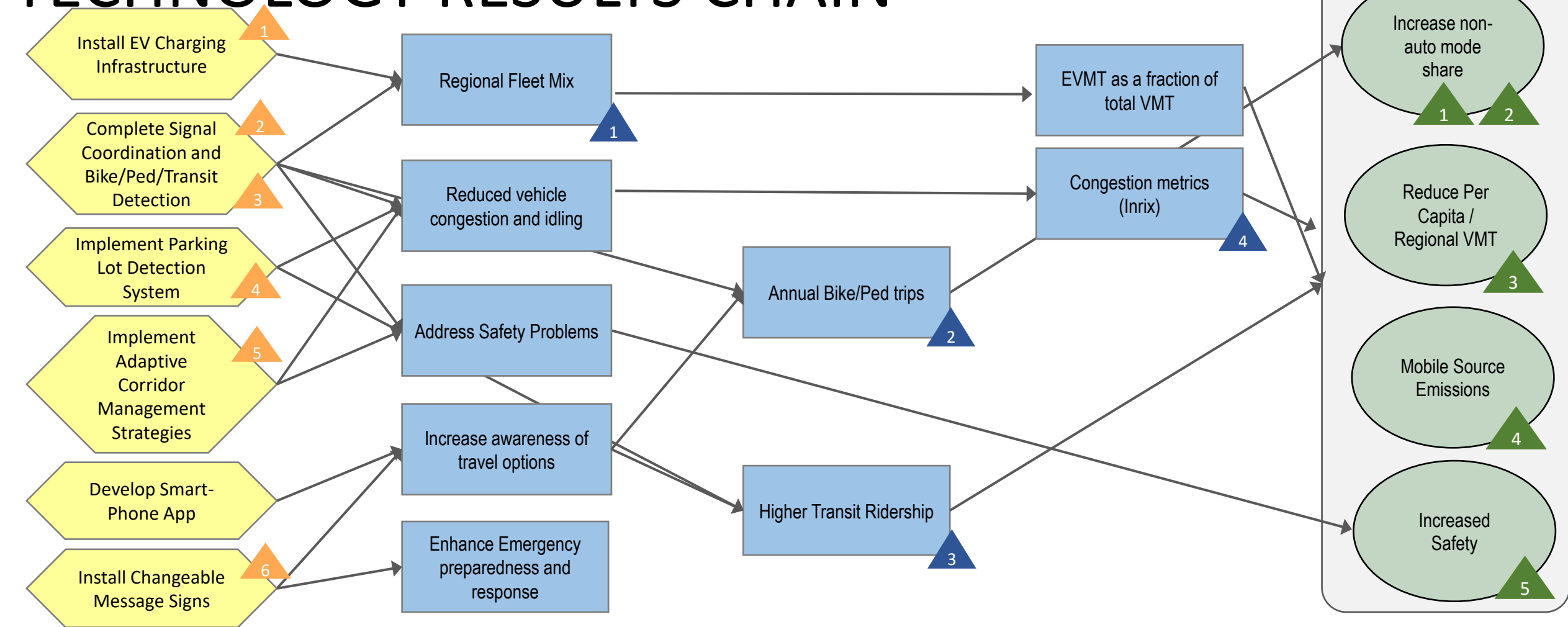
Emission sources



Framework



TECHNOLOGY RESULTS CHAIN



2) Tahoe specific standards and all others

NAC 445B.22097 State standards of quality for ambient air. (NRS 445B.210)

1. The table contained in this section lists the minimum state standards of quality for ambient air.

Ambient Air Quality Standards				
Pollutant	Averaging Time	California Standards ¹		Nati
		Concentration ³	Method ⁴	Primary ^{3,5}
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)
Respirable Particulate Matter (PM ₁₀) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³
	Annual Arithmetic Mean	20 µg/m ³		—
Fine Particulate Matter (PM _{2.5}) ⁹	24 Hour	—	—	35 µg/m ³
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)
	8 Hour	9.0 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—

		STATE STANDARDS ^{A, B, D}
POLLUTANT	AVERAGING TIME	CONCENTRATION ^C
Ozone	8 hours	0.070 ppm
Ozone-Lake Tahoe Basin, #90	1 hour	0.10 ppm (195 µg/m ³)
Carbon monoxide less than 5,000' above mean sea level	8 hours	9 ppm (10,500 µg/m ³)
At or greater than 5,000' above mean sea level		6 ppm (7,000 µg/m ³)
Carbon monoxide at any elevation	1 hour	35 ppm (40,500 µg/m ³)
Nitrogen dioxide	Annual arithmetic mean	0.053 ppm (100 µg/m ³)
	1 hour	100 ppb
Sulfur dioxide	Annual arithmetic mean	0.030 ppm (80 µg/m ³)
	24 hours	0.14 ppm (365 µg/m ³)
	3 hours	0.5 ppm (1,300 µg/m ³)
	1 hour	75 ppb
Particulate matter as PM ₁₀	24 hours	150 µg/m ³
Particulate matter as PM _{2.5}	Annual arithmetic mean	12.0 µg/m ³
	24 hours	35 µg/m ³
Lead (Pb)	Rolling 3 mo. average	0.15 µg/m ³
Hydrogen sulfide	1 hour	0.08 ppm (112 µg/m ³) ^E

Administrative - PM2.5

AQ12) Particulate Matter_{2.5} Annual Arithmetic Average - Maintain Particulate Matter_{2.5} at or below annual arithmetic average of 12 $\mu\text{g}/\text{m}^3$ in the portion of the Region within California and maintain Particulate Matter_{2.5} at or below annual arithmetic average of 15 $\mu\text{g}/\text{m}^3$ in the portion of the Region within Nevada. Particulate Matter_{2.5} measurements shall be made using gravimetric or beta attenuation methods or any equivalent procedure which can be shown to provide equivalent results.

2012					
78 FR 3085 Jan 15, 2013 EXIT	Primary	PM _{2.5}	Annual	12.0 $\mu\text{g}/\text{m}^3$	Annual arithmetic mean, averaged over 3 years 2.1

Technical - PM10

NAC 445B.22097 State standards of quality for ambient air. (NRS 445B.210)

1. The table contained in this section lists the minimum state standards of quality for ambient air.

		STATE STANDARDS ^{A, B, D}
Particulate matter as PM ₁₀	24 hours	150 µg/m ³

AQ10) Particulate Matter₁₀ Annual
Particulate Matter₁₀ at or below annual arithmetic average of
20µg/m³ in the portion of the Region within California, and maintain
Particulate Matter₁₀ at or below annual arithmetic average of
50µg/m³ in the portion of the Region within Nevada. Particulate
Matter₁₀ measurements shall be made using gravimetric or beta
attenuation methods or any equivalent procedure which can be shown
to provide equivalent results at or near the level of air quality standard.

2006 71 FR 61144 Oct 17, 2006 EXIT	Primary and Secondary	PM ₁₀	24 hour	150 µg/m ³	Not to be exceeded more than once per year on average over a 3-year period
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3) Only Tahoe specific standards

THRESHOLD STANDARDS



CARBON MONOXIDE - 8 HR AVERAGE – RETAIN CURRENT STANDARD



OZONE – 1 HR STANDARD – RETAIN CURRENT STANDARD

REGIONAL VISIBILITY – 50% STANDARD – RETAIN CURRENT STANDARD

REGIONAL VISIBILITY – 90% STANDARD – RETAIN CURRENT STANDARD

SUBREGIONAL VISIBILITY – 50% STANDARD – RETAIN CURRENT STANDARD

SUBREGIONAL VISIBILITY – 90% STANDARD – RETAIN CURRENT STANDARD

Water Quality

THRESHOLD STANDARD

SYSTEM TAGS

X 1) DEEP LAKE CLARITY – TAHOE TMDL TARGET FOR LAKE CLARITY



X 2) NEARSHORE ALGAE – TARGET FOR ALL NEARSHORE ALGAE
(METAPHYTON/PERIPHYTON)



3) NO NEW AIS – RETAIN CURRENT STANDARD



4) AIS CONTROL GOAL – TARGET FOR REDUCTION IN THE ABUNDANCE AND
DISTRIBUTION OF AIS FROM AIS ACTION PLAN



5) TRIBUTARY HEALTH – SEZ CONDITION INDEX / BIOASSESSMENT SCORE



6) MEADOW AND STREAM RESTORATION – USE SEZ CONDITION INDEX TO ESTABLISH
A NEW RESTORATION GOAL FOR THE REGION



4) Tahoe specific standards & Tahoe Unique

THRESHOLD STANDARDS

CARBON MONOXIDE - 8 HR AVERAGE – RETAIN CURRENT STANDARD

OZONE – 1 HR STANDARD – RETAIN CURRENT STANDARD

REGIONAL VISIBILITY – 50% STANDARD – RETAIN CURRENT STANDARD

REGIONAL VISIBILITY – 90% STANDARD – RETAIN CURRENT STANDARD

SUBREGIONAL VISIBILITY – 50% STANDARD – RETAIN CURRENT STANDARD

SUBREGIONAL VISIBILITY – 90% STANDARD – RETAIN CURRENT STANDARD

Discussion